REMARKS

Reconsideration and allowance of the above referenced application are respectfully requested.

Claim 2 stands rejected under 35 USC 102 as allegedly being anticipated by U.S. patent No. 5,262,871. Claims 3-8, 13-16 and 20 stand rejected as allegedly being obvious over '871 in view of U.S. patent No. 5,717,919. The indication that claims 9-11 and 17-19 would be allowable if rewritten into independent form is appreciatively noted. Claims 9 and 17 are so rewritten herein. In addition, certain ones of the limitations from claim 9 have been amended into claim 2. It is respectfully suggested that this claim amendment renders claim 2 also allowable, for the same reason as that for which the examiner found claim 9 to be allowable.

Whatever else that '871 in view of '199 may teach, it certainly does not teach the concept of operating on a pixel by pixel basis. Specifically, '871 clearly does teach the use of a signal processor 18 to monitor different areas of the image, and this may also be used to determine how to combine pixels into a "super pixel" in an area by area basis. However, it does not teach or suggest counting individual properties of the pixels themselves. This was recognized by the official action which indicated claim 9 to be allowable. Claim 9 recites a counter

which counts the number of pixels which are in specified illumination states, and sets a summation kernel based on that. However, more generally, the way in which the system works is generically described on pages 13-14. The signals from the pixels are monitored on a pixel by pixel basis. The top of page 14 describes that if the signals from more than half the pixels are lower than the threshold level, then properties may be changed. Another words, this system statistically monitors these pixels.

This language has been added to claim 2, and it is respectfully suggested that this subject matter is not in anyway taught or suggested by '871 in view of '199.

All of the remaining old claims have been amended to either depend from these claims, or to include the subject matter which the office action has already indicated as allowable.

A number of new claims, 21-32, are also added herewith and directed to additional features. Each of these claims should be allowable for these reasons. Specifically, claims 21-30 defines an operation of self-calibrating the pixels. By self-calibrating the pixels, more exact operation of setting kernel size becomes possible. None of the cited prior art is in any way suggestive of self-calibrating of the pixels. Therefore, these claims should be allowable.
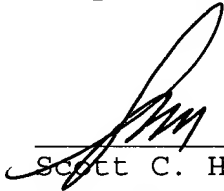
Claims 31-32 define the subject matter of setting the pixel size based on signal to noise ratio. Once again, it is respectfully suggested that this is not taught or suggested by the cited prior art.

In view of the above amendments and remarks, therefore, all of the claims should be in condition for allowance. A formal notice of allowance is respectfully requested.

Applicant asks that all claims be allowed. Enclosed is a $432 check for excess claim fees. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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Attached is a marked-up version of the changes being made by the current amendment.

Version with markings to show changes made

<u>In the claims</u>:

Claim 17 has been cancelled.

2. (Amended) An adaptive programmable light imaging device, comprising:

an array of active pixel sensor pixels, each pixel producing a signal based only on the received radiation within the pixel;

a plurality of programmable summation kernels, each summation kernel programmable to selectively sum together a number of said pixels from said active pixel sensor; and

a resolution control circuit, producing an output signal which controls a size of said summation kernels between a minimum value kernel size and a maximum value kernel size[;] <u>by</u> <u>monitoring</u> [wherein said resolution control circuit monitors a magnitude of] a received signal level from <u>individual</u> pixels, <u>statistically determining numbers of pixels which are in</u> <u>specified states,</u> and automatically [changes] <u>changing</u> the size of the summation kernels based on [said signals from said pixels] <u>statistically determining</u>.

9.   (Amended) [A device as in claim 3,] An adaptive
programmable light imaging device, comprising:

an array of active pixel sensor pixels, each pixel
producing a signal based only on the received radiation within
the pixel;

a plurality of programmable summation kernels, each
summation kernel programmable to selectively sum together a
number of said pixels from said active pixel sensor; and

a resolution control circuit, producing an output signal
which controls a size of said summation kernels between a
minimum value kernel size and a maximum value kernel size[;] by
monitoring [wherein said resolution control circuit monitors a
magnitude of] a received signal level from individual pixels,
statistically determining numbers of pixels which are in
specified states, and automatically [changes] changing the size
of the summation kernels based on [said signals from said
pixels] statistically determining further comprising a counter
which counts a number of pixels which are in specified
illumination states and sets said summation kernel size based on
said count.

15. (Amended) An adaptive programmable light imaging
device, comprising:

an array of active pixel sensor pixels, each pixel

producing a signal based only on the received radiation within

the pixel;

a plurality of programmable summation kernels, each

summation kernel programmable to selectively sum together a

number of said pixels from said active pixel sensor; and

a resolution control circuit, producing an output signal which

controls a size of said summation kernels between a minimum

value kernel size and a maximum value kernel size,

wherein said active pixel sensor includes a photoreceptor

and a buffer transistor and a selection transistor, and

further comprising calibrating the circuit [the circuit]

prior to detecting a desired resolution.

16.   (Amended) An adaptive programmable light imaging

device, comprising:

an array of active pixel sensor pixels, each pixel having

an in-pixel buffer transistor, and in-pixel selection

transistor, and a photoreceptor producing a signal based only on

the received radiation within the pixel;

a double sampling circuit, operating to eliminate at least

one amplifier offset from said signal;

a plurality of programmable summation kernels, each

summation kernel programmable to selectively sum together a

number of said pixels from said active pixel sensor; and

a resolution control circuit, including an illumination

condition detecting part connected to said active pixel sensor

pixels and determining the illumination condition therefrom, and

producing an output signal which automatically controls a size

of said summation kernels between a minimum value kernel size

for a maximum illumination condition, and a maximum value kernel

size based on a minimum illumination condition, <u>wherein said</u>

<u>illumination condition detecting part comprises a counter which</u>

<u>counts numbers of pixels which are in specified illumination</u>

<u>states and sets said summation kernel size based on said count</u>.

18. (Amended) A device as in claim [17] <u>16</u>, wherein said

counter detects whether at least half of the image has

sufficiently bright pixels, and if so, configures the kernel

size to be on.

19. (Amended) A device as in claim [17] <u>16</u>, wherein said

counter determines if at least half of the number of pixels are

dimmer than a specified value, and if so sets the kernel size to

a preset maximum value.